UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,879	01/09/2006	Masayoshi Kobayashi	Q92553	7294

23373   7590   11/26/2008
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ART UNIT	PAPER NUMBER
2416	

MAIL DATE	DELIVERY MODE
11/26/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _09 January 2006_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-34_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-34_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _09 January 2006_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *   c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Specification

1.   The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3.   Claims 33 and 34 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claim Objections

1.   Claims 1-21 are objected to because of the following informalities.

In claim 1 line 4 recites "the total transmission rate" which lacks antecedent basis. Appropriate correction is required. Similar problems exists in claim 1 line 5 and line 6, claim 2 lines 1-2, claim 3 lines 1-2, claim 4 lines 1-2, claim 5 lines 1-2, claim 6

line 4, claim 7 lines 3-4, claim 8 line 14, claim 9 lines 2, claim 10 line 2, claim 11 line 2,

claim 12 lines 7-8, claim 13 lines 7-8, claim 14 lines 7, claim 15 lines 5, claim 16 line 2,

claim 17 line 2, claim 18 line 2, claim 19 line 3, claim 20 line 4, claim 21 lines 3-4.

In claim 1 line 3 lines 3-4 recites "the congestion conditions which lacks

antecedent basis. Similar problem exists in claim 4 line 3.

In claim 11 line 5 recites "said effective rates" which lacks antecedent basis.

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2.   Claims 33 and 34 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter. In claim 33 and 34 line 1 recites "a

program for causing a computer" which is a non-statutory subject matter. Example of

acceptable language is "a computer readable medium" encoded with "a computer,

software, computer executable instructions, instructions capable of being executed by a

computer".

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-3, 6-10, 13-16, 20-21, 29-31 and 33 are rejected under 35 U.S.C. 102(e) as being unpatentable by Jinzaki et al. (U.S. Patent No. 7,133,407).

For claim 1, Jinzaki et al. disclose a transport layer relay method for terminating each of a plurality of transport layer connections in the transport layer and relaying data flow on each of said transport layer connections to respectively separate transport layer connections (See Figure 35); wherein the total transmission rate of relay connections that are being used for relay is determined (see column 28 lines 38-43; column 69 lines 45-58), and said total transmission rate is divided for allotment (see column 7 lines 49-57; column 69 lines 40-44) as the transmission rates of relay connections that are being used in relay (see column 17 lines 61-67 and column 18 lines 1-8).

For claims 2, 3, 9, 10, 16 and 17, Jinzaki et al. disclose wherein said total transmission rate is determined in accordance with the number of transport layer connections that are being relayed (column 69 lines 45-58; column 28 lines 65-67 and column 29 lines 1-5); the congestion conditions of the network through which the relay connections pass (see column 69 lines 62-65).

For claims 6, 7, 13, 14, 20 and 21, Jinzaki et al. disclose wherein the results of estimating, by means of measurement packets (see column 69 lines 45-64); the congestion conditions of a network through which relay connections pass are also used to determine said total transmission rate (see column 69 lines 63-65).

For claims 8 and 33, Jinzaki et al. disclose wherein said transport layer relay

device (see Figure 35(610)) includes a plurality of terminal-side connection termination

units (see Figure 31 (703A, 703B, 704A, 704B)) or terminating each of a plurality of

transport layer connections with terminals in a transport layer (see Figure 76) and a

plurality of interdevice connection termination units for terminating each of a plurality of

transport layer connections between transport layer relay devices for relaying transport

layer data between each of said terminal-side connection termination units and each of

said interdevice connection termination units (see Figure 31 (611,713)); wherein: said

interdevice connection termination units transmit in accordance with a transmission rate

that is reported from a transmission rate control unit (see Figure 20 (252)); and the

transmission rate control unit determines the total transmission rate of all interdevice

connection termination units that are used in relay (see column 28 lines 38-43), divides

said total transmission rate (see column 7 lines 49-57), and reports the respective rates

that have been divided and allotted to each said interdevice connection termination unit

that is being used in relay (see Figure 20 (413); the figure shows the transmission rate

is computed by the transmission control unit 252 and reported to the interdevice Internet

adapter).

For claim 15, Jinzaki et al. disclose a transport layer relay method for

terminating each of a plurality of transport layer connections in respective transport

layers (see Figure 35) and then grouping data flows on each of said transport layer

connections into one transport layer connection for relaying (see Figure 62) , wherein:

the total transmission rate of the relay connections is determined (see column 28 lines

41-43), and the data flows from each of said transport layer connections are grouped to

a relay connection in accordance with divided rates of said total transmission rate (see

column 7 lines 49-57; column 69 lines 59-62).

For claim 29, Jinzaki et al. disclose wherein, when establishing a new transport

layer connection, said total transmission rate is determined (column 69 lines 45-58;

column 28 lines 65-67 and column 29 lines 1-5), said total transmission rate is divided

for allotment as transmission rates to each relay connection (see column 7 lines 49-57;

column 69 lines 40-44) and the allotted rates are reported to the partner in establishing

said new transport layer protocol (see column 34 lines 17-18).

For claim 30, Jinzaki et al. disclose wherein when establishing a transport layer

connection with a terminal, initial transmission rate information (see column 34 lines 13-

17) is reported to the terminal that is reported from said transmission rate control unit

(see column 34 lines 17-18).

For claim 31, Jinzaki et al. disclose wherein when establishing new transport

layer connection, said total transmission rate is determined (see column 69 line 37) and

rates obtained by dividing said total transmission rate are reported to said partner in

establishing a new transport layer protocol (see column 69 lines 39-44).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

5.   Claims 5, 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Jinzaki et al. in view of Yao et al. (U.S. Patent No. 6,097,697).

For claims 5, 12 and 19, Jinzaki et al. disclose wherein said total

transmission rate is divided and allotted to transmission rates of each of said relay

connections in said data flow on each of said relay connections (see column 69 lines

40-44). Jinzaki et al. disclose all the subject matter but fails to mention depending on

application information. However, Yao et al from a similar field of endeavor disclose

depending on application information (see column 4 lines 9-10). Thus, it would have

been obvious to one ordinary skill in the art at the time of invention was made to include

Yao et al. congestion scheme into Jinzaki et al. transport layer relay transmission

scheme. The method can be implemented in the transmission relay unit. The motivation

of doing this is to control congestion within a network (see column 2 lines 61-62).

6.   Claims 4, 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Jinzaki et al. in view of Rochberger et al. (U.S. Patent No. 6,097,697).

For claims 4, 11 and 18, Jinzaki et al. disclose wherein said total transmission rate is determined in accordance with the number of transport layer connections that are relayed (see column 28 lines 38-43), the congestion conditions of the network through which relay connections pass (see column 69 lines 62-65). Jinzaki et al. disclose all the subject matter but fails to mention such that effective rates of all relay connections that are being used for relay can be attained while conferring priorities to traffic other than relay connections that share bottlenecks with relay connections. However, Rochberger et al. from a similar field of endeavor disclose such that effective rates of all relay connections that are being used for relay can be attained while conferring priorities to traffic other than relay connections that share bottlenecks with relay connections (see column 10 lines 19-26). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Rochberger et al. priority scheme into Yao et al. congestion control scheme. The method can be implemented by dynamically assigning priority to individual packets within a data stream. The motivation of doing this is to dynamically prioritizing packets in a network entity according to their sensitivity to time delays (see column 7 lines 40-43).

7.   Claims 22-24, 27-28, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jinzaki et al. in view of Trebes, Jr. (U.S.PGPub No. 20020093980).

For claims 22 and 34, Jinzaki et al. disclose a plurality of terminal-side connection termination units for terminating transport layer connections with terminals in the transport layer (see Figure 31 (703A, 703B, 704A, 704B)); one interdevice connection termination unit for terminating a transport layer connection between

transport layer relay devices (see Figure 31 (611,713)); and for grouping transport layer

data from each of said terminal-side connection termination units and transferring to

said interdevice connection termination unit (see Figure 73); wherein: said interdevice

connection termination unit transmits in accordance with a total transmission rate that is

reported from a transmission rate control unit (see column 34 lines 13-18; Figure 20

(413); the figure shows the transmission rate is computed by the transmission control

unit 252 and reported to the interdevice Internet adapter)); groups data from terminal-

side connection termination units in accordance with the distribution of rates that is

reported from the transmission rate control unit (see column 69 lines 40-44); and the

transmission rate control unit determines and reports the total transmission rate of said

interdevice connection termination unit and reports the distribution of rates obtained by

dividing said total transmission rate (see column 69 lines 36-44). Jinzaki et al. disclose

all the subject matter but fails to mention MUX-DEMUX unit. However, Trebes, JR. from

a similar field of endeavor discloses MUX –DEMUX (see paragraph 436 lines 1-6).

Thus, it would have been obvious to one ordinary skill in the art at the time of invention

was made to include Trebes, JR. MUX_DEMUX scheme into Jinzaki et al. congestion

control scheme. The method can be implemented in the hardware circuitry. The

motivation of doing this is to multiplex and demultiplex group of data into a single stream

(see paragraph 436 lines 2-3).

     For claim 23, Jinzaki et al. disclose wherein said total transmission rate is

determined in accordance with the number of transport layer connections that are being

relayed (see column 28 lines 38-43; column 35 lines 1-7) and the congestion conditions

of the network through which the relay connections pass (see column 69 lines 59-64).

For Claim 24, Jinzaki et al. disclose wherein said total transmission rate is

determined in accordance with the number of transport layer connections that are being

relayed and the congestion conditions of the network through which relay connections

pass such that desired effective rates are attained for all relay connections that are

being used in relay (column 69 lines 45-65).

For claims 27, 28, Jinzaki et al. disclose wherein the results of estimating , by

means of measurement packets, the congestion conditions of a network through which

relay connections pass are also used to determine said total transmission rate (see

column 69 lines 45-65).

For claim 32, Jinzaki et al. disclose wherein, when establishing a transport layer

connection with a terminal, initial transmission rate information (see column 34 lines 13-

17) that is reported from said transmission rate control unit is reported to the terminal

(see column 34 lines 17-18).

8.   Claims 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Jinzaki et al. in view of Trebes Jr. as applied to claim 22 above, and further in view of

Rochberger et al. (U.S. Patent No. 6,760,309).

For claim 25, Jinzaki et al. disclose wherein said total transmission rate is

determined in accordance with the number of transport layer connections that are

relayed and the congestion conditions of the network through which relay connections

pass (see column 69 lines 45-65). Jinzaki et al. and Trebes Jr. disclose all the subject

matter but fails to mention such that effective rates of all relay connections that are

being used for relay can be attained while conferring priorities to traffic other than relay

connections that share bottlenecks with relay connections. However, Rochberger et al.

from a similar field of endeavor disclose such that effective rates of all relay connections

that are being used for relay can be attained while conferring priorities to traffic other

than relay connections that share bottlenecks with relay connections (see column 10

lines 19-26). Thus, it would have been obvious to one ordinary skill in the art at the time

of invention was made to include Rochberger et al. priority scheme into Yao et al. and

Trebes Jr. congestion control scheme. The method can be implemented by dynamically

assigning priority to individual packets within a data stream. The motivation of doing this

is to dynamically prioritizing packets in a network entity according to their sensitivity to

time delays (see column 7 lines 40-43).

9.   Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jinzaki

et al. in view of Trebes, Jr. as applied to claim 22 above, and further in view of Yao et al.

     For claim 26, Jinzaki et al. disclose all the subject matter but fails to mention

further comprising an application information analysis unit for analyzing application

information in transport layer data when transport layer data are transferred between

each of said terminal-side connection termination unit and said MUX-DEMUX unit;

wherein said transmission rate control unit divides said total transmission rate and

determines the distribution that is reported to said MUX -DEMUX unit based on

application information from said application information analysis unit. However, Trebes,

Jr. discloses said MUX-DEMUX unit; wherein said transmission rate control unit divides

said total transmission rate and determines the distribution that is reported to said MUX

-DEMUX unit based on application information from said application information

analysis unit (see paragraph 436 lines 1-6). Thus, it would have been obvious to one

ordinary skill in the art at the time of invention was made to include Trebes, JR.

MUX_DEMUX scheme into Jinzaki et al. congestion control scheme. The method can

be implemented in the hardware circuitry. The motivation of doing this is to multiplex

and demultiplex group of data into a single stream (see paragraph 436 lines 2-3).

Jinzaki et al. and Trebes, Jr. disclose all the subject matter but fails to mention

comprising an application information analysis unit for analyzing application information

in transport layer data when transport layer data are transferred between each of said

terminal-side connection termination unit. However, Yao et al. from a similar field of

endeavor disclose comprising an application information analysis unit for analyzing

application information in transport layer data when transport layer data are transferred

between each of said terminal-side connection termination unit (see column 4 lines 9-

10). Thus, it would have been obvious to one ordinary skill in the art at the time of

invention was made to include Yao et al. application analysis into Jinzaki et al. and

Trebes, Jr. transport layer relay transmission scheme. The method can be implemented

in the transmission relay unit. The motivation of doing this is to control congestion within

a network (see column 2 lines 61-62).

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Ha et al. (U.S. Patent 7136353) and Lindsey et al. (U.S. Patent

6226296).

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MOHAMMAD ANWAR whose telephone number is

(571)270-5641. The examiner can normally be reached on Monday-Thursday, 9am-

4pm.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Derrick W. Ferris can be reached on 571-272-3123. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

                                                        MOHAMMAD ANWAR

Examiner
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